

CLAIMS

What is claimed is:

1. An image forming apparatus, comprising:
a housing, including a metallic frame;
a photoconductive member including a shaft removably mounted to said metallic frame; and
an electrical connector assembly associated with said photoconductive member, operative to bias said photoconductive member to an operating voltage without biasing said shaft to said operating voltage.
2. The apparatus of claim 1, said shaft including a bearing, wherein said bearing mounts to said frame.
3. The apparatus of claim 2 wherein said bearing mounts to a V-shaped receptacle in said frame.
4. The apparatus of claim 1 further comprising a subunit detachable from said housing, and wherein said photoconductive member is mounted to said subunit.

5. A photoconductive member for an image forming apparatus, comprising:
 - a hollow, conductive cylindrical drum;
 - an insulating end cap disposed axially at least partially within said drum, said end cap including a bore;
 - a shaft disposed axially through said drum and said bore and spaced from said drum, said shaft electrically isolated from said drum by said end cap; and
 - an electrical contact assembly operative to bias said drum, but not said shaft, to an operating voltage.
6. The photoconductive member of claim 5 wherein said electrical contact assembly electrically contacts said drum at the interior surface thereof.
7. The photoconductive member of claim 5 wherein said electrical contact assembly protrudes at least partially through said end cap to the interior of said drum.
8. The photoconductive member of claim 5 wherein said electrical contact assembly protrudes at least partially external to said end cap to an electrical contact disposed in said image forming apparatus.
9. The photoconductive member of claim 5 wherein said insulating end cap comprises a cup having an outer cylindrical wall, a floor, and an inner cylindrical wall defining said bore, said outer and inner walls and said floor defining an annular space.
10. The photoconductive member of claim 9 wherein said electrical contact assembly comprises an annular conductive hub disposed in said end cap annular space.

11. The photoconductive member of claim 10 wherein said annular conductive hub is formed of conductive plastic.
12. The photoconductive member of claim 10 wherein said conductive hub includes at least one protrusion disposed through a hole in said end cap floor and into the interior of said drum.
13. The photoconductive member of claim 12 wherein said electrical contact assembly further comprises an internal contact electrically connected between said conductive hub protrusion and the interior surface of said drum.
14. The photoconductive member of claim 10 wherein said electrical contact assembly further comprises an external electrical contact electrically connected to said conductive hub and protruding at least partially from said end cap.

15. A photoconductive member for an image forming apparatus, comprising:
a hollow cylindrical member having an exterior surface operative to receive a latent image; and
an electrically conductive brake member operative to reduce the rotational velocity of said cylindrical member, said brake member additionally biasing said cylindrical member to an operating voltage.
16. The photoconductive member of claim 15 wherein said electrically conductive brake member includes an arm protruding from said photoconductive member and contacting an electrical contact separate from said photoconductive member.
17. The photoconductive member of claim 15 wherein said electrically conductive brake member comprises a coil operative to impart a torque on said cylindrical member.
18. The photoconductive member of claim 15 wherein said electrically conductive brake member biases said cylindrical member by electrical contact on the interior surface thereof.
19. The photoconductive member of claim 15 further comprising a shaft disposed axially through, and electrically isolated from, both said cylindrical member and said brake member.

20. A photoconductive member for an image forming apparatus, comprising:
a hollow cylindrical member having an exterior surface operative to receive a latent image;
a shaft disposed axially through, and electrically isolated from, said cylindrical member; and
an electrical contact operative to bias said cylindrical member to an operating voltage by contact with the interior surface of said cylindrical member, wherein said electrical contact does not bias said shaft to said operating voltage.
21. The photoconductive member of claim 20 wherein said electrical contact is disposed in one end of said cylindrical member.
22. The photoconductive member of claim 21 wherein said electrical contact is electrically isolated from said shaft by an insulating end cap.
23. The photoconductive member of claim 22 wherein said insulating end cap includes a bore through which said shaft is disposed, said bore operative to axially position said shaft in said cylindrical member and electrically isolate said shaft from said cylindrical member.
24. The photoconductive member of claim 22 wherein said electrical contact protrudes through said end cap to contact the interior of said cylindrical member.

25. A method of electrically biasing a photoconductive member for an image forming apparatus having a metallic frame, to an operating voltage, said photoconductive member including a hollow, cylindrical member and a shaft having bearings thereon axially disposed in said cylindrical member, comprising:

mounting said photoconductive member in said image forming apparatus such that said shaft bearings connect to receiving voids formed in said metallic frame,
electrically isolating said shaft from said cylindrical member; and
biasing said cylindrical member to said operating voltage.

26. The method of claim 25 wherein biasing said cylindrical member to said operating voltage comprises electrically connecting an electrical contact disposed in said image forming apparatus to the interior surface of said hollow cylindrical member.